WHAT IS CLAIMED:

1. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image of an anatomical structure of an animal;

(b) determining the total temperature of the infrared thermographic image; and

(c) detecting early or subclinical inflammation of an anatomical structure of an animal if there is a change in the mean temperature of less than 1 °C of an anatomical structure relative to the mean temperature of the same anatomical structure of the same animal obtained from infrared thermographic images taken when there was no inflammation of the anatomical structure.

2. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image of an anatomical structure of an animal;

(b) determining the total temperature of the infrared thermographic image; and

(c) detecting early or subclinical inflammation of an anatomical structure of an animal if there is a change in the mean temperature of less than 1 °C of an anatomical structure relative to the mean temperature of the same anatomical structure of a population of animals of the same species obtained from infrared thermographic images taken when there was no inflammation of the anatomical structure.

3. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image of an anatomical structure of an animal;

(b) determining the total temperature of the infrared thermographic image; and

(c) detecting late stage development of inflammation of an anatomical structure of an animal if there is a change in the mean temperature of greater than

1 °C of an anatomical structure relative to the mean temperature of the same anatomical structure of the same animal obtained from infrared thermographic images taken when there was no inflammation of the anatomical structure.

4. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image of an anatomical structure of an animal;

(b) determining the total temperature of the infrared thermographic image; and

(c) detecting late stage development of inflammation of an anatomical structure of an animal if there is a change in the mean temperature of greater than 1 °C of an anatomical structure relative to the mean temperature of a population of animals of the same species obtained from infrared thermographic images taken when there was no inflammation of the anatomical structure.

5. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image of an anatomical structure of an animal;

(b) obtaining an infrared thermographic image of the symmetrical anatomical structure of the animal;

(c) determining the total temperature of the infrared thermographic images for the symmetrical anatomical structure; and

(d) detecting inflammation of an anatomical structure if the total temperature of the symmetrical anatomical structures differ by greater than a predetermined amount.

6. The method of Claim 5, wherein the temperature image symmetry of the anatomical structure is more than 10% different from the symmetrical anatomical structure.

7. A method for the detection of inflammation of an anatomical structure of an animal, comprising:

(a) obtaining an infrared thermographic image(s) of an anatomical structure of an animal over time; and

(b) assessing the infrared thermographic images for changes of temperature, wherein the rate of change of temperature greater than 0.1 °C/h indicates inflammation.

8. The method of Claim 1, 2, 3, 4, 5, 6 or 7, wherein the anatomical structure is not a joint.

9. The method of Claim 1, 2, 3, 4, 5, 6 or 7, wherein the anatomical structure is a joint of a non-human animal.

10. The method of Claim 1, 2, 3, 4, 5, 6 or 7, wherein the animal is a mammal.

11. The method of Claim 1, 2, 3, 4, 5, 6 or 7, wherein the animal is a non-human mammal.

12. A method for detecting mastitis in a mammal, comprising the steps of:

(a) obtaining an infrared thermographic image of a mammary gland of said mammal, said infrared thermographic image providing temperature information about said mammary gland; and,

(b) identifying said mammal as having a high probability of having mastitis if a measure of said temperature information is greater than a predetermined value by at least a predetermined amount.

13. The method according to Claim 12, wherein said predetermined value comprises a corresponding measure of temperature information for a mammary gland of said mammal when unaffected by mastitis, or a corresponding measure of mammary gland temperature information for a population representative of said mammal, said population comprising individuals not having mastitis.

14. The method according to Claim 12, wherein said predetermined value is obtained by infrared thermography.

15. The method according to Claim 12, wherein said measure is a measure of central tendency.

16. The method according to Claim 15, wherein said measure of central tendency is a mean.

17. The method according to Claim 12, wherein said predetermined amount is 1°C.

18. A method for detecting mastitis in a mammal, comprising the steps of:

(a) obtaining a plurality of successive infrared thermographic images over time of a mammary gland of said mammal, said infrared thermographic images providing temperature information about said mammary gland; and,

(b) identifying said mammal as having a probability of having mastitis if the change over time of a measure of said temperature information provided by said successive images is greater than a predetermined rate.

19. The method according to Claim 18, wherein said measure is a measure of central tendency.

20. The method according to claim 18, wherein said predetermined rate is 0.1°C per hour.

21. A method for detecting mastitis in a mammal having an udder comprising the steps of:

(a) obtaining an infrared thermographic image of one quarter of the udder of said mammal at time 0;

(b) obtaining an infrared thermographic image of the same quarter of the udder of said mammal at a later time;

(c) determining a total temperature for a first image, said first image corresponding to said quarter of the udder of said mammal at time 0;

(d) determining a total temperature for a second image, said second image corresponding to said quarter of the udder of said mammal at a later time; and

(e) identifying said mammal as having a high probability of having mastitis if the total temperature for said first image differs from the total temperature for said second image by greater than a predetermined amount.

22. The method according to Claim 21, wherein the total temperature of said first image is determined by multiplying the area represented by said first image by the mean of the temperature information provided by said first image, and the total temperature of said

second image is determined by multiplying the area represented by said second image by the mean of the temperature information provided by said second image.

23. The process according to Claim 21, wherein said predetermined amount is 10%.

24. A method for detecting mastitis in a mammal having an udder, comprising the steps of :

(a) obtaining images of the two frontal quarters or two rear quarters of the udder of said mammal;

(b) determining the total temperature of a first image, said first image corresponding to one frontal quarter or one rear quarter of the udder of said mammal;

(c) determining the total temperature of a second image, said second image corresponding to the other frontal quarter or the other rear quarter of the udder of said mammal; and

(d) identifying said mammal as having a high probability of having mastitis if the total temperature of said first image differs from the total temperature of said second image by greater than a predetermined amount.

25. The method according to claim 24, wherein said predetermined amount is 10%.

26. The method according to Claim 12, 13, 14 ,15, 16, 17, 18, 19, 20, 21, 22, 23, 24 or 25, wherein said mammal is of the species *Bos taurus* or *Bos indicus*.

27. The method according to Claim 12, 13, 14 ,15, 16, 17, 18, 19 or 20, wherein said mammal is a pig, horse, dog or cat.

28. A method for detecting when a clinical treatment for treating inflammation of an anatomical structure of an animal was successful, comprising the steps of :

(a) obtaining an infrared thermographic image of the anatomical structure of the animal;

(b) determining the total temperature of the infrared thermographic image; and

(c) detecting the successful treatment of inflammation of the anatomical structure by comparing the total temperature of the anatomical structure with the

total temperature of the same anatomical structure obtained from the same animal or a population of animals of the species when healthy.

29. A method for detecting inflammation of an anatomical structure of an animal, comprising the steps of:

(a) obtaining an infrared thermographic image of the anatomical structure of an animal after an event;

(b) comparing the infrared thermographic image obtained to infrared thermographic images of the same anatomical structure of the same animal prior to the event; and

(c) detecting inflammation of the anatomical structure of the animal if there is a relative difference in the temperature of the anatomical structure of the animal.

30. A method for detecting inflammation of an anatomical structure of an animal, comprising the steps of:

(a) obtaining an infrared thermographic image of the anatomical structure of an animal after an event;

(b) comparing the infrared thermographic image obtained to infrared thermographic images of the same anatomical structure of a population of animals of the same species prior to the event; and

(c) detecting inflammation of the anatomical structure of the animal if there is a relative difference in the temperature of the anatomical structure of the animal.

31. The method of Claim 29 in which the event is surgery.